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european commission for the
control of foot-and-mouth disease



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SUMMARY

This Update is provided to the EuFMD Executive for the 84th Session of the Executive Committee and should be read together with the **MID-TERM Report** (9/2011) and the Update Report for the 83rd Session (4/2012). Reports to the Executive Committee of the EC are accepted as part of the reporting arrangements to the DG-SANCO of the European Commission (EC) in fulfillment of the Contract between FAO and the EC relating to funding for the activities to be conducted by the EuFMD Commission. The current Contract was signed in September 2009 and has a term of 48 months.

The EuFMD Commission, at the 38th General Session in April 2009, adopted a four year Strategic Plan of activities, involving six components, with priorities for in-country actions being to support FMD control in Southeast Europe through greater management of the FMD risk in countries bordering to Turkey, in West Eurasia. These projects are coordinated with those of other Directorates of the EC and other funding agencies, to promote progressive control in the West Eurasian countries along a long term Roadmap.

Following signature of the financing agreement, specific activities of the EuFMD are initiated following response of the EC to proposals from the Secretariat or decisions of the Executive Committee at which the EC are represented.

The EC support is provided through a Trust Fund (TF), MTF/INT/007/EEC, with a total funding of € 8 million for the four year period of the current agreement. Since September 2009, the EC has agreed funding of actions in six of the Strategic Plan components, with by far the largest being for in-country programmes in the Trans-Caucasus and Iran aimed at reducing the risk of new incursions of FMD into Turkey and Eastern Europe. Funding is also provided for training of European veterinarians, for surveillance in the African proximity, for short technical studies, and for surveillance for FMD in Egypt.

In response to FMD outbreaks in Bulgaria in 2011, the TF was used for emergency funding purposes for procurement of FMD vaccines for re-enforcement of immunity in Turkish Thrace, and thereby protection of the three countries with common borders. In 2012 emergency missions have been included to Turkey (Asia-1 vaccination effectiveness) and Egypt and Libya (SAT2 outbreaks). The EC also agreed to supply 500,000 doses of Trivalent A/O/Asia-1 vaccine to the trans-Caucasus to re-enforce the vaccination campaign in Spring 2012.

At the 39th Session in April 2011, the EuFMD Commission recommended **three additional components**. These are indicated as Components 7-9 below. For two of these, expenditures or activities had not been committed before April 2012, but actions and expenditure has commenced in the current 6 month period (i.e April-September 2012).

In addition, the EC has proposed development of a TRIPARTITE surveillance programme for FMD in Thrace, and the first activity towards this occurred in September and is reported under Component 1 (Risk reduction in South-East Europe).

The nine **Components** reported in detail in the Update Report are:

1. Risk reduction in South-East Europe through support to FMD control in West Eurasia;
2. Activities to reduce FMD risk in the South and East Mediterranean countries;
3. Field based FMD Training Programme;
4. FMD surveillance in the African proximity;
5. Technical studies;
6. Response to FMD Emergencies.
7. Strengthening FMD laboratories in the Balkan Region;
8. Improved Contingency Planning through use of decision support tools;
9. World Reference Laboratory (WRL) contract – FMD surveillance support activities .

The work under each component is scheduled for completion in 2012 or before completion of the term Funding Agreement .

Annexes:

Annex I: Six-monthly report Iran

Annex II: Real-Time Training – numbers trained 2009-12; Executive Summary of NTC10

Annex III: Emergency Response to the SAT2 incursions into Egypt/Libya: missions, training, diagnostics supplied April 2012-September 2012

Annex IV: Monthly report-August 2012

UPDATE : MAIN ACTIONS UNDERTAKEN BETWEEN APRIL AND SEPTEMBER 2012

Component	Subcomponent	Update – April 2012- September 2012	Reports
1. Risk reduction in South-East Europe through support to FMD control in West Eurasia	West Eurasia Roadmap - Secretariat	3 rd Roadmap progress review meeting held in Istanbul, March 2012 Planning for 4 th Roadmap meeting initiated: possible to be held in Baku Collaboration with: FAO, OIE	Report circulated and online
	Thrace – improved surveillance for early detection of FMD	Support letter from SANCO received. Workshop held September 18-21 st in Istanbul (TUR, GRE, BUL)	Draft report received. Report to ExCom
	West Eurasia – Risk assessment	FMD database : transition to EMPRESi GEO, ARM, AZER, TURKEY participate in data sharing (monthly) Collaboration with: EMPRES-i	Monthly reports (TCC)
	West Eurasia-training in progressive control	Practical epidemiology for progressive control (PEPc) Training course developed and initiated	PEPc Week 1 completed (12 participants), Sept 2012
	WELNET –lab network	Agreement Iraq-Turkey on sample submission to SAP Institute	
	Trans-Caucasus project	Vaccine use assessment mission completed (D Krnjaic/Ryan) following EC provision of 500,000 doses of vaccine. Protocol governing authorization of release of EC-supplied vaccine reserve written. Project activities on track. Mission Potzsch (July to GEO, ARM) and project co-ordination mission (Tbilisi). Final phase activities planned (lab training, Simulation Exercise (lead Consultant: Robert Paul). Coordination with: USDA & US DTRA activities in Georgia	Co-ordination meeting report. Monthly reports (to August 2012). Report of vaccine assessment mission circulated to EC.

	Iran project	Major activities on track. Supervision and training mission completed June 2012. Animal identification and registration study tour to Montenegro completed in June 2012. Activity plan to 12/2012	Monthly Disease information reports, Mission Reports. Proficiency test Results for Central Lab (WRL-PTS)
2. Activities to reduce FMD risk in the South and East Mediterranean countries	Egypt (see also 6-Emergencies)	<ol style="list-style-type: none"> 1. FMD management Emergency missions to Egypt (April, May). 2. National FMD management workshop, Cairo 2-3rd May. 3. Surveillance Programme proposal developed and submitted to EC-SANCO in August for support Collaboration with: FAO ECTAD, FAO RNE, EMPRES 4. Participation in TAIEX workshop in Cyprus, Sept 2012, covering FMD regional threats; EuFMD chaired session on vaccination strategies. Coordination with: TAIEX, OIE, FAO Tunis, REMESA. 	<p>Mission reports.</p> <p>Waiting for EC response</p> <p>Report on TAIEX website due soon; report to ExCom.</p>
5. Field based FMD Training Programme	Real-Time Training programme (NTC)	<p>One real-time Training Course held in period (September 2012)</p> <p>New Real-Time training approach piloted (Sept 2012).</p> <p>Use of smart-phone apps for rapid epidemiological investigations and local risk factor investigations, with knowledge transfer to trainees</p>	<p>Each Course reported (Training wikispace).</p> <p>Very positive feedback- trainees</p>

6. FMD surveillance in the African proximity	West/Central Africa: via RESOLAB-FMD	<p>FMD-SAT2 laboratory diagnosis course held in ANSES, Paris (May 2012) with North African and Sahelian zone countries . Surveillance plans developed with each country. Collaboration with: ANSES, FAO Tunis</p> <p>FMD diagnostic course held in Accra, Ghana (funded by USAID IDENTIFY project , EuFMD provided lab trainers and planning). Nine counties have a new capacity and kits for FMD serotyping, with mainly US funding. Follow up actions identified, to be funded by USAID with technical input from EuFMD.</p> <p>Collaboration with: USAID IDENTIFY, EMPRES, FAO ECTAD, FAO RAF, RESOLAB</p>	<p>Monthly FMD report of the EuFMD includes input from the Network coordinators.</p> <p>Regional surveillance report - Annual Meeting.</p> <p>Surveillance plan for North Africa: report to ExCom</p> <p>Surveillance plan for West Africa: being drafted.</p>
	Eastern Africa: EARLN-FMD	<p>Sample shipment Eritrea, Ethiopia and Sudan to WRL Collaboration with: EMPRES Shipping Service FMD Manual developed by network. Vaccine matching capacity – technical advice to establish provided (van Maanen mission).</p>	<p>Monthly FMD reports to EuFMD</p>
7. Technical studies		<p>Completed: Anatolia wild boar surveillance project</p> <p>Implemented:</p> <ul style="list-style-type: none"> Wild boar tracking and non-invasive sampling project Contracts with IAH and DTU for PCR-typing of African serotypes and methods of transporting samples cheaply Vaccine effectiveness studies (in Turkey) Contract to develop an “FMD surveillance design and analysis model “ 	<p>Final report awaited from the Anatolia Wild Boar project.</p> <p>Progress reports</p> <p>First of the serotyping PCRs used for SAT2 in Egypt; to be reported at Open Session</p>

8. Response to FMD Emergencies		<ol style="list-style-type: none"> 1. Egypt- emergency missions in April-June 2. SAT2 diagnostic ELISA kits provided to at risk Mediterranean fringe countries. 3. Surveillance in high risk border zones: workshop Cyprus June 2012 (Israel, PAT, Egypt, Jordan, Cyprus). 4. Surveillance and FMD management regional workshop, Rabat (under UMA/REMESA), funded by EC through EuFMD 5. Asia-1 vaccine effectiveness study, Turkey 	<p>Reported.</p> <p>Reported Feb 2012. Delivered March 2012. Report</p> <p>Report</p> <p>Report</p>
9. Strengthening FMD laboratories in the Balkan Region		<p>Gap analysis missions undertaken by IAH for EuFMD, Aug-September.</p> <p>Meeting held with representative of EC IPA project on rabies & CSF in West Balkans to coordinate epidemiological and laboratory support</p> <p>Coordination with: EC IPA project</p>	Expected at ExCom
10. Improved Contingency Planning through use of decision support tools		<p>First Workshop held at the CVO Meeting in Denmark, June 2012. Second workshop planned for Vienna, October.</p> <p>Secretary and Chairman of the STC participated in RAPIDD policy/modeling for FMD workshop, September (RAPIDD funded)</p>	Report to ExCom
11. WRL contract		Contract (150,000 per annum US\$) developed with IAH covering surveillance activities 2011-12.	Signed and implemented

Note: the monthly reports from each components feed into the MONTHLY EuFMD/EMPRES FMD Surveillance “Global” report produced by 15th of each Month. An example is provided in **Annex IV**.

COMPONENT 1 : RISK REDUCTION IN SOUTH-EAST EUROPE THROUGH SUPPORT TO FMD CONTROL IN WEST EURASIA

Projects in this category:

1. Support to the West Eurasia Roadmap (Secretariat, surveillance and annual progress reviews)
2. Trans-Caucasus Countries
3. Iran
4. Thrace – improved surveillance for early detection of FMD Thrace – improved surveillance for early detection of FMD

PROJECT #1 : SUPPORT TO THE WEST EURASIA ROADMAP (SECRETARIAT, SURVEILLANCE AND ANNUAL PROGRESS REVIEWS)

Summary of actions in reporting Period:

1. The 2012 West Eurasian FMD Roadmap review was held in Istanbul in March 2012, and attended by representatives of 13 of the 14 Roadmap countries (Syria and Iraq were not present), plus EC, FAO and OIE. Side meetings were held on the risk of SAT2 spread from Egypt/Libya into the mid-east. The PCP Stage was reviewed for each country and a revised Roadmap developed.
2. The Roadmap Report was placed online, with a review of vaccination programmes and recommendations for vaccine use in 2012.
3. A training programme in practical epidemiology for progressive control (PEPc) has been developed by EuFMD and the first course initiated in September 2012, in Istanbul, for 12 trainees from West Eurasia and Egypt. Field work involving FMD outbreak investigation was part of week 1 (Leaders: Melissa McLaws, EuFMD and Theo Knight-Jones, EuFMD).
4. West Eurasia FMD vaccination database: the contract with FLI, Germany has been concluded and the database transferred to EMPRES-I, FAO; four countries (Trans-Caucasus and Turkey) have agreed to send MONTHLY data on FMD outbreaks and vaccination to the database. Training was given in Turkey (T Knight-Jones) in establishing the monthly reporting system into EMPRESi.
5. WELNET: the risk of FMD including SAT2 in Iraq has been recognized and an agreement was reached on shipment across Iraq/Turkey border of samples for typing at the SAP Institute, as air transport seems impossible to arrange.

Major Reports online – NEW in Reporting period

1. Roadmap Progress Review Report, for 2012

<http://www.fao.org/ag/againfo/commissions/eufmd/commissions/eufmd-home/reports/regional-fmd-meetings/en/>

2. Prior Reports:

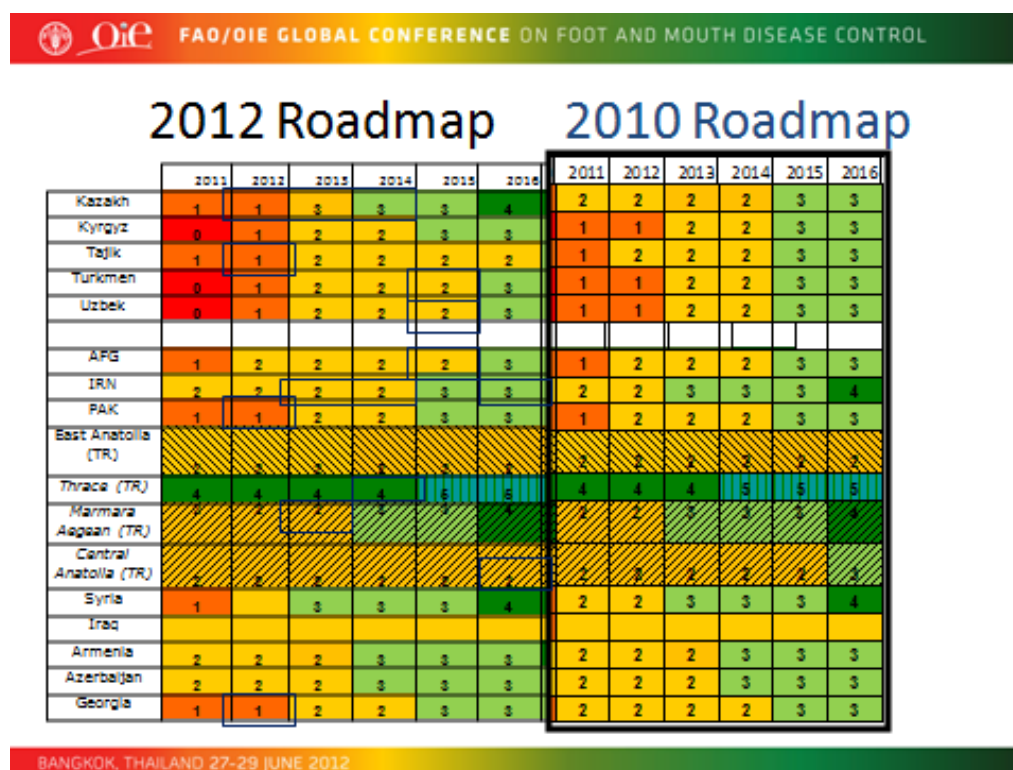
Roadmap Progress Review Report, for 2009.

http://www.fao.org/ag/againfo/commissions/docs/Regional_FMD_meetings/West_EurAsia_Roadmap_Report.pdf

Roadmap Progress Review Report, for 2010

http://www.fao.org/ag/againfo/commissions/docs/Regional_FMD_meetings/2011/Report_Istanbul.pdf

Figure 1. PCP Stage self-assessment in 2012 compared to the previous Roadmap assessment in 2010; the blue boxes indicate the CHANGE to PCP state or in anticipated progress. In almost all cases the revision is downward, a more conservative view on rate of progress, and can be attributed to the more rigorous approach used to assess progress on activities within each Stage and a better understanding of countries of the difficulties to progress in Stages 1 and 2.



**PROJECT #2 : STRENGTHENING FOOT-AND-MOUTH DISEASE SURVEILLANCE AND CONTROL
IN THE TRANS-CAUCASIAN COUNTRIES TO ASSIST PROGRESSION ON THE WEST EURASIA
FMD PROGRESSIVE CONTROL PATHWAY**

Countries: Georgia, Armenia, Azerbaijan

Lead technical officer (LTO) and other principal international experts:

Eoin Ryan (Supervisor since March 2012), Carsten Potzsch (LTO), Tsviatko Alexandrov.

Reporting period : April 2012-September 2012

Summary

The key activities undertaken were:

- Completion of the Spring 2012 vaccination campaigns
- A mission was undertaken to assess the storage, distribution and use of EC-supplied vaccines to the TCC in June (D. Krnjaic & E. Ryan). There was good evidence that the cold chain had been maintained, the vaccine stored and distributed correctly, and used in accordance with the stated plans. The 150,000 dose vaccine reserve for the TCC was inspected and found to be secure and stored correctly.
- Penside tests (lateral flow devices) for FMD were provided to each country.
- A protocol governing the process whereby some or all of the EC-supplied emergency vaccine reserve could be used was written and issued.
- Serological surveys were conducted after the Spring vaccination campaign and the samples analyzed using reagents supplied by EuFMD to the national laboratories.
- A project coordination meeting was held in August to review activities and plan follow-up actions.
- Clusters of NSP-positive animals were identified and follow-up investigations and sampling coordinated and supported, including the provision of technical support and supplies.
- National laboratories participated in WRL proficiency trials.
- Epidemiological training was provided to the TCC under the PEPc program (discussed elsewhere).
- A telephone conference was held with representatives of the United States Department of Agriculture program and the United States Defense Threat Reduction Agency (DTRA) program for animal health support to Georgia, to identify areas of similar activity and ensure no duplication of activities. The information provided about DTRA support in the area of PCR and laboratory capacity development enabled a more efficient approach to be taken, improving outcomes at reduced cost.

Activities planned for October to December 2012:

- **October:** laboratory training in the use of real time PCR for FMD diagnosis is planned, with follow-up actions to include the provision of diagnostic reagents to the laboratories to facilitate use of PCR to detect viral RNA in samples from NSP positive animal clusters.
- **November:** a desktop simulation exercise is planned to evaluate the contingency plans for each country, with the results to be used to inform further improvement of plans.
- **December:** review of project activities, closing workshop.
- **December/January:** describe the options for further EuFMD/EC support to the TCC, recommending actions to maintain momentum while ensuring efficient use of funds.

PROJECT #3 : COMBATING FOOT-AND-MOUTH DISEASE THROUGH ENHANCED AND CO-ORDINATED SURVEILLANCE ACTIVITIES; PHASE III OF THE FMD SURVEILLANCE CENTRE INITIATIVE

Countries: Iran

Lead technical officer (LTO) and other principal international experts:

Melissa McLaws (LTO), Chris Bartels, principal international expert/epidemiologist. Labib Bakkali (France), FMD diagnostic laboratory expert.

Reporting period : April 2012- September 2012

The current project was formally agreed in July 2010 and should run for 3 years. Project activities effectively commenced in October 2010.

Summary :

The 6 monthly report is provided in **ANNEX I**.

PROJECT #4 : THRACE – IMPROVED SURVEILLANCE FOR EARLY DETECTION OF FMD

Countries: Turkey, Bulgaria, Greece

Lead technical officer (LTO) and other principal international experts:

Keith Sumption (Supervisor), Angus Cameron (Consultant)

Reporting period : April 2012-September 2012

Summary:

Following a request from DG-SANCO to develop surveillance plans for the early detection of FMD in domestic and wildlife species in Turkish Thrace , and adjoining areas of Greece and Bulgaria, a workshop was held with two participants from each country, in Istanbul (September 18-21st). The workshop was led by Angus Cameron, EuFMD Consultant, and Theo Knight-Jones (EuFMD STP). The workshop aimed to develop a surveillance plan that was risk based and which took into consideration the contribution of all components of the current passive and active surveillance systems; the additional surveillance components will be costed and the proposal provided to EC for potential funding (to begin early 2013-).

Reporting: Draft Report provided within one week of WS. Full one to follow.

COMPONENT 2: ACTIVITIES TO REDUCE FMD RISK IN THE SOUTH AND EAST MEDITERRANEAN COUNTRIES

1. One Phase of support to Egypt (150,000 USD) by EuFMD was completed on 29th February 2012, at which time the final workshop became aware of a very high likelihood of a SAT2 incursion, subsequently confirmed by Pirbright.
2. Emergency missions by EuFMD to Egypt were immediately undertaken in March under the Emergency Component (06: Emergencies), and working with the CMC-AH , a co-ordinated response was managed (see 06).
3. Longer term National FMD management was the subject of a National FMD management workshop, Cairo 2-3rd May, organized by FAO and Alexandria University.
4. An FMD management program was developed by FAO for the Bucharest Executive of some 2.7 m USD; subsequently a Surveillance Programme proposal was developed by EuFMD consultants, which after inputs and revisions by FAO-ECTAD and Government of Egypt, was submitted to EC-SANCO in August for support.
5. The EuFMD/EC programme has supported national consultants in Egypt to complete monthly reports, which indicate that SAT2 remains circulating in Egypt, as do other exotic sub-Saharan FMD strains (in September 2012).
6. Co-ordinated activities are unlikely to be easily achieved without a clear agreement from EC on the programme or budget limits.

Collaboration with: FAO ECTAD, FAO RNE, EMPRES, CMC-AH

7. Participation in TAIEX workshop in Cyprus, Sept 2012, covering FMD regional threats; EuFMD chaired session on vaccination strategies.

Coordination with: TAIEX, OIE, FAO Tunis, REMESA.

COMPONENT 3: TRAINING PROGRAMME – FMD OUTBREAK RESPONSE (REAL-TIME TRAINING).

PROJECT #1: REAL-TIME FMD TRAINING PROGRAMME

Lead technical officer (LTO) and other principal international experts:

Keith Sumption (LTO). Nadia Rumich, Communications Officer and Training Course manager, and Eoin Ryan (EuFMD). Naci Bulut, Turkey, and Eunice Chepkwony (Kenya), principal in country focal points for course management.

Countries: All European (EC, EFTA, Western Balkan) and EuFMD member states.

Reporting period : 6 months to September 2012.

The second (24 month) Phase of Real-Time Training, after the 39th Session, had aim of providing experience of investigating FMD suspect cases in the field, for TWO front-line veterinarians from each member state that are members of the EU and/or EuFMD. (The first Phase had the aim of training THREE persons per country in the European region/EU and EuFMD MS).

The OVERALL number of trainees to September 2012 is 168 (Annex II), with 48 trained in Phase II which is the biennium to April 2013. The target of 2 per MS requires 72 trained in the biennium; or 24 more trainees requiring 3 courses. If the neighbouring countries are included, then another 18 should be added (9 countries in Western Balkans, Eastern European neighbours plus North Africa).

The executive summary report from NTC 10 and overall training summary are in **Annex II**.

Reporting in this period

1. One RT Course was run in the period: NTC10, September 2012.
2. Training Course reports placed online after each course on the common, online network training site: <https://etcrealtimefmdtraining.wikispaces.com/>
3. **Annex II** gives the Overall Situation of the Programme.

COMPONENT 4 : FMD SURVEILLANCE IN THE AFRICAN PROXIMITY

Countries:

As per agreement with the Executive and EC, focus is upon countries with close proximity to North Africa and Middle-East in distance and trading connections, with support provided on a Network basis (Eastern and Western Africa).

Reporting period : 6 months to September 2012

Lead technical officer (LTO) and other principal international experts:

Keith Sumption (LTO). Sabenzia Wekesa (Kenya), Joseph Awuni (Ghana), Abdullah Traore (Mali), Network Coordinators for Eastern and West/Central Africa Networks. Joseph Litamoi and Bouabcar Seck for FAO-EARLN and FAO-Resolab networks linkages, respectively. Dr Kees van Maanen (NL), for technical guidance and leadership of the Eastern African Lab network in 2010-12. Jef Hammond, WRL-Pirbright, for linkages to the OIE/FAO Lab network and to WRL support services.

Project basis (background)

As previously reported, the EuFMD support is given to promote FMD reporting via the existing FAO Regional Lab Networks (RESOLAB and EARLN). For both networks, the expected outcomes were:

- (a) To provide information on FMD diagnostic and surveillance results in the network areas to the EuFMD, for public dissemination through the EuFMD reports.
- (b) To promote the use of reference laboratory services in their regions, and where needed to provide training on FMD typing and technical assistance to member laboratories.
- (c) To increase the flow of relevant and informative FMDV samples to the WRL for characterization, sequencing and vaccine matching, to improve the information base on current FMDV circulation in each virus pool/region.

Summary in 6 month period:

<p>West/Central Africa: via RESOLAB-FMD</p>	<p>FMD-SAT2 laboratory diagnosis course held in ANSES, Paris (May 2012) with North African and Sahelian zone countries . Surveillance plans developed with each country. Collaboration with: ANSES, FAO Tunis</p> <p>FMD diagnostic course held in Accra, Ghana (funded by USAID IDENTIFY project , EuFMD provided lab trainers and planning). Nine countries have a new capacity and kits for FMD serotyping, with mainly US funding. Follow up actions identified, to be funded by USAID with technical input from EuFMD.</p> <p>Collaboration with: USAID IDENTIFY, EMPRES, FAO ECTAD, FAO RAF, RESOLAB</p>	<p>Monthly FMD report of the EuFMD includes input from the Network coordinators.</p> <p>Surveillance plan for North Africa: report to ExCom</p> <p>Co-ordinated set of post-training follow-up surveillance plans (to achieve local serotyping) being drafted at NRL level and sent to RESOLAB (technical advice from ANSES/EuFMD).</p>
<p>Eastern Africa: EARLN-FMD</p>	<p>EARLN-FMD workplan could not be adhered to – lack of HQ capacity. Priorities were sample shipment and achieving functional service of vaccine matching in the region, since Kenya supplies SAT2 and other vaccines to East Africa that may be relevant to North Africa/Mid-East.</p> <p>Sample shipment Eritrea, Ethiopia and Sudan to WRL Collaboration with: EMPRES Shipping Service FMD Manual developed by network. Vaccine matching capacity – technical advice to establish provided (van Maanen mission).</p>	<p>Monthly FMD reports to EuFMD from EARLN-focal points</p> <p>Report of Kees van Maanen. Kenya (Embakasi lab) to initiate routine VM from October 2012.(new for East Africa)</p>

COMPONENT 5 : RESEARCH PROJECTS FUNDED BY EC THROUGH THE EUFMD

Reporting period : 6 months to September 2012

Lead technical officer (LTO) and other principal international experts:

Keith Sumption (LTO). Dr Aldo Dekker, (NL), Chairman of the EuFMD Research Group, 2009-11, and Dr Kris de Clercq, Vice-President. Professor David Paton, IAH Pirbright, Chairman of the EuFMD Standing Technical Committee from April 2011. Members of the Research subcommittee of the Executive (Dr Nigel Gibbens, UK, and Alf Füssel, EC). From 4/2011, the Standing Technical Committee (STC) took responsibility for review of proposed CN, and comprised Professors Paton (UK) and Willeberg (DK), Dr C Bruschke (NL) and Dr Matthias Kramer (DE),

Project basis (background)

This component forms part of the overall 4 year Strategic Plan of the EuFMD to ensure that technical gaps to implementing FMD control actions by the member states are identified, and where urgently required, are supported through a Research procurement Process.

Summary in current period:

- Research Co-ordination; supporting the GFRA to produce Annual “State of FMD research “ reviews. (LoA: Onderstepoort Vet Institute, F. Maree). 1st LoA activities completed; second to be negotiated.
- Role of the European wild boar in FMD epidemiology (LoA: SAP Institute, Ankara, N Bulut): activities completed in April 2012.
- Methods for tracking wild boar dispersion and non-invasive surveillance sampling (FAO-EMPRES, S Khomenko and in Bulgaria, T Alexandrov): started 7/2012
- Assessment of FMD Vaccine effectiveness in Turkey/West Eurasia (IAH, T Knight-Jones): started 7/2012
- Development of an FMD Surveillance model for confidence in disease freedom based on multiple types of surveillance activity (Contract: A. Cameron): started 8/2012, for completion 11/2012

In addition, travel to support attendance at research-related meetings was supported, including training meetings, a meeting on FMD in wild boar.

Reporting

For each project, reports were generated and sent to the EuFMD; and each project leader required to report to the next Open Session of the EuFMD research group.

COMPONENT 6: FMD EMERGENCY RESPONSES

Countries: as agreed with EC

Reporting period: Six months to September 2012

Lead technical officer (LTO) and other principal international experts:

Keith Sumption (LTO).

Project basis (background)

In response to situations arising, and to requests either from the Secretary, EuFMD, or from the EC focal point; the scope of each emergency action is agreed with the EC and communicated by letter of EC to the Chairman, EuFMD Executive Committee.

Summary of actions funded under the emergency response category:

1. Egypt- emergency missions in April-June
2. Training in SAT2 diagnosis, and supply of diagnostic ELISA kits to at risk Mediterranean fringe countries.
3. Surveillance in high risk border zones: workshop Cyprus June 2012 (Israel, PAT, Egypt, Jordan, Cyprus).
4. Surveillance and FMD management regional workshop, Rabat (under UMA/REMESA), funded by EC through EuFMD
5. Asia-1 vaccine effectiveness study, Turkey

The EuFMD activities are summarized in the ANNEX III

Specific outputs to date or other indicators that progress is being made

1. Monthly Reports (Egypt)
2. Monthly Reports on FMD Surveillance (EuFMD/EMPRES), compiled from OIE, FAO, national consultant and media sources
3. Reports from EuFMD missions, from each workshop and training

Specific Reporting

1. Surveillance (Cyprus) Training Report (June 2012)
2. FMD management in Maghreb border zones (Rabat Workshop, July 2012) : report

Reference to reports/appendices online in the Exec or General Session reports

COMPONENT 7: STRENGTHENING FMD LABORATORIES IN THE BALKAN REGION

1. Gap analysis missions to 8 Countries/States planned in period following 83rd Session: to Serbia, Croatia, Bosnia-Herzegovina, Montenegro, Albania, FYROM, Kosovo, Moldova. Missions undertaken by IAH under the Contractual basis of the FMD Diagnostic Services Framework Agreement (FAO/IAH). Missions were delayed in implementation and have not all been completed within the 6 month period.

COMPONENT 8: IMPROVED CONTINGENCY PLANNING THROUGH USE OF DECISION SUPPORT TOOLS

1. At the 39th General Session, a recommendation was made that member states should consider the use of decision support tools and disease spread models, and the Secretariat was asked to support this. The STC drafted a position paper on how best to proceed, which was endorsed by the Executive Committee at the 83rd meeting. The first Workshop was held as a pre-meeting to the EU CVO Meeting in Denmark, June 2012; this efficient arrangement resulted in high attendance from across the EU with EuFMD supporting the non-EU European countries (EuFMD members) to attend. The STC proposal was discussed; following suggestions from the CVOs, the proposal was revised to specifically train policy makers in acting as “intelligent customers” who could commission, set up and oversee modeling groups in their countries and correctly understand and interrogate the resulting outputs. A half-day workshop for the non-EU countries was also held to identify needs in epidemiology, contingency planning and modeling, with the result that most non-EU countries identified a more pressing need for training in FMD epidemiology than in modeling. Therefore Epi-Training may be needed before modeling could be best used. Two groups of countries thus emerge, those requesting initial Epi-Training and those ready for workshops on modeling in decision support.
2. A first training workshop on the use of modeling and decision support tools will be held in Vienna on the 15th to 19th October, kindly hosted by the Austrian Ministry of Health and the University of Veterinary Medicine, Vienna. The trainees will be senior veterinary policymakers from Serbia, Croatia, Slovakia, Slovenia, Hungary, Czech Republic, Malta and Austria. The trainers will be experts with skills including contingency planning, policy implementation, the use of model outputs to inform disease control, establishing a modeling group, and running simulation models.

It is hoped that, following the successful conclusion of this workshop, the possibility of holding a second workshop or a series of workshops may be supported.

3. Secretary and Chairman of the STC (Professor Paton) participated in RAPIDD policy/modeling for FMD workshop, September (the US funded RAPIDD programme funded travel and participation). This also enables planning of the Vienna workshop, as several US collaborators will assist in this.

COMPONENT 9: SUPPORT TO THE WORLD REFERENCE LABORATORY, PIRBRIGHT, IN 2011-12

1. Contract (150,000 per annum US\$) developed with IAH covering surveillance activities 2011-12. This has been signed and implemented.

**Combating Foot-and-mouth Disease through enhanced and co-ordinated
surveillance activities; Phase III of the FMD
surveillance centre initiative**

Reporting period: **April-September 2012**

Country: Islamic Republic of Iran

Code: MTF/INT/003/EEC

Budget: USD 956,500

Effective starting date: October 2010

Planned end date:

Context of the Project

The project seeks to reduce the risk of FMD circulation in Iran through the support to achieve the stage 2 of the progressive control pathway (PCP) at national level and entry into stage 3 in at least one high control zone, in Western Iran. In do so the project will improve early threat detection through a network of subnational laboratories in priority areas for FMD control, and upgrade, through twinning programmes, the national epidemiology unit and national reference laboratory.

The project is consistent with:

- the actions engaged by the EUFMD Commission in the region (Projects MTF/INT/003/EEC), and the 4 year Strategic Plan of the EUFMD Commission;
- the West Eurasia FMD Roadmap for FMD control in 14 countries, including Iran and immediate neighbours;
- and the FAO's Strategic Framework.

Overall objectives of the project

The overall objective of the project is to better understand the epidemiology and ecology of FMD in Iran and to reduce the risk posed by FMD, applying the progressive control pathway (PCP) approach.

Planned outputs and activities

Objective 1. Achieve PCP Stage 2 criteria and prepare for entry into Stage 3 in 2012-13 in at least one area

- Iran fully meets PCP stage 2 requirements in 2010-11, in respect of an implemented control strategy based on vaccination that targets the main points for entry and spread of FMDV with an associated monitoring system, information/reporting system, and progress assessment system that meets the needs of the Stage;
- Upgraded National Epidemiology Unit with greater human resources / capacity to assess impact of FMD prevention and control measures, and which can provide regional services;
- Iran participates in West Eurasia PCP activities, actively shares information using the regional FMD database and contributes to regional early warning.

Objective 2. Establish network of national and 5 subnational (sNL) FMD laboratories in Iran, in order to provide services required under Stage 2 of the PCP in all areas and Stage 3 PCP at least in one area (Western: West AZB Province).

The NRL would, through a Twinning Program, be expected to meet reference centre levels of performance for FMDV serology (SP and NSP) and for supervision of subnational centres conducting NSP serology and initial FMDV typing by ELISA and PCR.

- Established system for rapid FMDV typing through sNLs, with rapid FMD strain typing at the subnational level within 5 working days of outbreak investigation, through application of ELISA and PCR based

- serotyping and strain (lineage) specific primers;
- Subnational laboratories can perform NSP ELISA and undertake level of serological testing (> 3000 per year) and immediate serology (after outbreaks) as required to measure incidence in the 3 study areas;
- National reference laboratory (NRL) capacity demonstrated to be in place to supervise and control quality of services provided by subnational laboratories, including EQA;
- NRL has capacity to perform NSP ELISA and SP antibody titrations with test protocols harmonised and performance comparable to an international reference laboratory (IRL);
- NRL performance in external quality assurance for FMDV typing and serology is similar to those of European NRLs;

Objective 3. Establish FMD control zone in West Azerbaijan Province, meeting all the criteria of PCP Stage 2 and some of the criteria of Stage 3

- Monitoring system in place, as required by PCP Stage 2, with virological and epidemiological assessment of >90% of all outbreaks and sero-monitoring system for assessing incidence in key risk populations;
- All required lab services for Stage 2 and in line with Stage 3 are in place at project end;
- Establishment of emergency response capacity as required for stage 2 and in line with stage 3
- System in place for assessing impact of control measures and revising local Strategy, with more than 2 years of results to guide control policy;

Objective 4. To reduce risk of FMD incursions to Iran through improved FMD threat detection in "FMD hot spots/accumulation centres" and development of improved control measures to prevent spread to/from fattening farms in Central Iran

- Evaluation of a monitoring system for early detection of FMDV circulating in a animal markets, with recommendations for continuation/sustainability, and for local control measures
- All required lab services to be provided by sNL and the NRL, for rapid typing (<5 days) and rapid sequencing and vaccine matching to variants;
- System in place for assessing impact of control measures and revising local Strategy, with more than 2 years of results to guide control policy;

Objective 5. To assist development and implementation of animal identification and animal movement control systems in Iran, as part of the effort to reduce the risks associated with movement and marketing of FMD infected animals

- Report giving recommendations, options, and plan of action and specifications and potential costs, for animal identification system(s) suitable for single Province or national application in Iran, capable of interfacing with current (or recommended) movement control system.
- Regular liaison meetings to address the issue of informal trade and risk of TADS spread, for the Western Borders (Western Iran Provinces bordering with Turkey, Iraq, and Azerbaijan) and Eastern Borders (AFG, PAK).
- Review of risks and risk reduction strategy to identify and address critical control points for entry of FMDV and spread within the livestock marketing chains in Iran.

Activities undertaken during the reporting period (April-September 2012)

Objective 1. Achieve PCP Stage 2 criteria and prepare for entry into Stage 3 in 2012-13 in at least one area

- Reports on the FMD situation and response (vaccination) continue to be submitted on a monthly basis.
- 12-24 June: Mission by backstopping officer (Chris Bartels)
 - Supervisory officer (Melissa McLaws) joined 15-18 June, during which time all project activities

- were reviewed
- Dr. Bartels had 2 training workshops: one in Mashhad and the second in Tehran. The latter workshop focussed on value chain and economic impact assessment related to FMD. Participants trained on how to conduct a survey to assess FMD impact, and were to return to their provinces to perform this.
- The National Project Coordinator (Naser Rasouli) has prepared a draft FMD control strategy, that he has presented and is discussing with Veterinary officials across the country.
 - English translation of this document is pending, however salient points were discussed with EuFMD consultants during the June mission.
- Results were received from IZLER, regarding the confirmatory testing of NSP samples from the large serosurvey carried out in WAZB. There was good agreement between the laboratories.
- Dr. Javad Emami from W. Azerbaijan attended the International Veterinary Epidemiology and Economics (ISVEE) conference held in Holland in August, and presented the results of the serosurvey to the conference.
- 3 trainees from Iran attended the first week of a training course in epidemiology ("Practical Epidemiology for Progressive Control"), held in Istanbul 10-14 September 2012.
- Samples have been submitted to the WRL for virus characterization (July 2012).
- The study protocol to investigate the induction of NSP antibodies by vaccination has been approved by IVO, and animals for the study have been identified. However, the study initiation is delayed pending budgetary support (complicated due to international sanctions)

Objective 2. Establish network of national and 5 subnational (sNL) FMD laboratories in Iran, in order to provide services required under Stage 2 of the PCP in all areas and Stage 3 PCP at least in one area (Western: West AZB Province).

The NRL would, through a Twinning Program, be expected to meet reference centre levels of performance for FMDV serology (SP and NSP) and for supervision of subnational centres conducting NSP serology and initial FMDV typing by ELISA and PCR.

- Results available from CVL participation in the Proficiency Testing scheme organized by the WRL, and have requested to participate in 2012
- Subnational laboratory network is functioning well, with 4 SNL's (W. Azerbaijan, Mashad, Kerman and Fars)
- Ag detection ELISA training and tests performed in W Azb, Fars, Kerman
- PCR in W. Azerbaijan
- Mashad has sequencing capacity

Objective 3. Establish FMD control zone in West Azerbaijan Province, meeting all the criteria of PCP Stage 2 and some of the criteria of Stage 3

- a local FMD control strategy has been prepared and is under discussion,
- ongoing analysis of results from serosurvey (see above).

Objective 4. To reduce risk of FMD incursions to Iran through improved FMD threat detection in "FMD hot spots/accumulation centres" and development of improved control measures to prevent spread to/from fattening farms in Central Iran

- Dr. Rasouli prepared a short report on animal markets in Iran.
- Feasibility of swab sampling in markets investigated: 15 swab samples (10 from affected animals and 5 from apparently healthy animals) collected in Qom province on 10 Sep. and sent to CVL for testing

Objective 5. To assist development and implementation of animal identification and animal movement control systems in Iran, as part of the effort to reduce the risks associated with movement and marketing of FMD infected animals

- 24-27 June: Study tour of animal identification and registration in Montenegro; led by EuFMD consultant Vanja Kondratenko and with 4 Iranian participants
- Training during June mission on value chain analysis and impact assessment
- Initial data just released on animal movements related to the large Damshahr market (analysis pending).

Planned Activities for the Next Half Year :

Objective 1. Achieve PCP Stage 2 criteria and prepare for entry into Stage 3 in 2012-13 in at least one area

1. Reports on the FMD situation and response (vaccination) to be submitted on a monthly basis for the duration of the project. These reports will be improved to provide a better assessment of vaccination activities.
2. Expert mission related to vaccine quality assurance and to provide technical support for IVO (and/or Razi Institute) to carry out potency testing on the Razi vaccine
3. Experimental studies to assess the serological response to vaccination,
4. Implement regional data sharing initiative, starting with Iran and Turkey
5. 3-4 Iranian participants will attend remaining sessions of the Practical Epidemiology course, in Istanbul (total 15 days between Oct-Dec 2012)
6. Mission of backstopping officer (follow-up).

Objective 2. Establish network of national and 5 subnational (sNL) FMD laboratories in Iran, in order to provide services required under Stage 2 of the PCP in all areas and Stage 3 PCP at least in one area (Western: West AZB Province).

The NRL would, through a Twinning Program, be expected to meet reference centre levels of performance for FMDV serology (SP and NSP) and for supervision of subnational centres conducting NSP serology and initial FMDV typing by ELISA and PCR.

- Follow-up mission focusing on laboratory quality control involving the expert from ANSES, scheduled for mid-November
- Assess results from WRL proficiency testing.

Objective 3. Establish FMD control zone in West Azerbaijan Province, meeting all the criteria of PCP Stage 2 and some of the criteria of Stage 3

- Design and implementation of socio-economic study of FMD impacts in W. Azerbaijan
- Review progress on provincial control strategy

Objective 4. To reduce risk of FMD incursions to Iran through improved FMD threat detection in "FMD hot spots/accumulation centres" and development of improved control measures to prevent spread to/from fattening farms in Central Iran

- Implement studies designed to identify and characterize live animal markets at national level
- Implement studies designed to investigate the feasibility and utility of swab sampling in markets.
- Provide technical support to IVO's plans to enhance biosecurity and change live animal marketing

practices.

Objective 5. To assist development and implementation of animal identification and animal movement control systems in Iran, as part of the effort to reduce the risks associated with movement and marketing of FMD infected animals

- Study of animal movements related to Damshahr market (Qom province)
- Review data collected by provincial officers on FMD impact (follow-up to last training)

Main challenges encountered and solutions:

1. It is an ongoing challenge to the increasing body of knowledge about FMD epidemiology into practical control measures and recommendations to improve the control strategy.
2. There are many questions regarding the quality and purity of the FMD vaccines used:
 - Regarding the purity, experimental studies have been designed to assess the serological response to vaccination, however the start has been delayed due to difficulties with transferring funds related to international sanctions.
 - Regarding the potency of the vaccine, missions involving international experts have been proposed, but agreement of the nature of this mission is yet to be clearly forthcoming in communications with the Razi Institute and IVO.
3. The National Project Coordinator has been out of the country from July-Sept. While a replacement has been appointed, this has caused delays in implementation of follow-up actions identified during the June mission. .
4. Project officers within IVO are no longer permitted to communicate directly with FAO, rather communication must go through International Affairs. This has contributed to delays in communication and the implementation of some activities identified for follow-up during the June mission.

Main progress made towards the achievement of project outcomes

- Epidemiology training thus far has demonstrated that much more use can be made of existing data through routine data analysis such as epidemic curves and the calculations of FMD incidence. These indicators are now included in IVO's analyses and presentations.
- The large NSP serosurvey has been done in W. Azerbaijan province, involving 9000 samples, demonstrated a very high prevalence of NSP antibodies at the epidemiology unit level (80%), and also at the animal level (40%). Risk factors for seroconversion included increased age, more than one prior vaccination, commercial farms (versus villages) and trading. Despite the fact that the survey targeted young animals (under 18 months), it is not possible to assess with certainty the amount of seroconversion due to use of the non-purified vaccine versus infection. However, a methodology involving changing the cut-off has been developed to assess the results at the population level, and should be valuable for further serosurveys in Iran and elsewhere.
- The understanding that clinical disease is only the tip of the iceberg of FMD virus infection. Control needs to focus on FMD virus transmission and, amongst other studies, disease outbreak investigations of clinical outbreaks are necessary to learn more about possible risk factors for introduction and spread
- The National Project coordinator has taken results from the 3 bullets above to develop a national FMD Control Strategy (work-in-progress). A provincial FMD control strategy for W. Azerbaijan is also under development.
- There has been progress in the development and functioning of the subnational laboratory network following the expert mission in October 2011. A clear action plan was developed and reports indicate it is being followed. Following this action plan, the CVL was officially nominated as the national reference laboratory for FMD, and has participated in the WRL proficiency testing scheme.
Iran fully participated in the West Eurasia Roadmap meeting in Istanbul in March 2012, sharing information and actively discussing the FMD situation with other countries in the region. They remain in PCP Stage 2, according to the provisional assessment results.

REAL-TIME FMD Training Programme: number of trainees from European and neighbourhood states, 2009- September 2012

	2009				2010						2011					2012			Total	Ph I	Ph II
Country	ET C1	ETC 2	ETC 3	ETC 4	ETC 5	ETC 6	ETC 7	ETC 8	ETC 9	NTC 2	NTC 3	NTC 4	NTC 5	NTC 6	NTC 7	NTC 8	NTC 9	NTC1 0	ETC- NTC10	ETC- NTC 4	NTC5-
Albania					2														2	2	0
Austria		1	2											1	1			1	6	3	3
Belgium				1					2							1			4	3	1
Bulgaria								2						1					3	2	1
Cyprus								1	1				1	1		1			5	2	3
Croatia							2	1						1			1	1	6	3	3
Czech Rep											1	1							2	2	0
Denmark				1		2										1		1	5	3	2
Estonia						2													2	2	0
Finland				1				1						1	1				4	2	2
France									3	1							2		6	4	2
Fyrom											1	2					1		4	3	1
Germany	2				1								1					1	5	3	2
Greece		1	1	1													1		4	3	1
Hungary		1	2											2					5	3	2
Ireland		2						1					1				1		5	3	2
Israel					1	1	1												3	3	0
Italy			2	1									2				1	1	7	3	4
Latvia								2		1					1			1	5	3	2
Lithuania																2			2	0	2
Luxburg																			0	0	0

Malta											3				1				4	3	1
Netherlands						1	1										1		3	2	1
Norway	2	1											1						4	3	1
Poland						1	2												3	3	0
Portugal	2			1															3	3	0
Romania											1	2							3	3	0
Serbia	2		1													1		1	5	3	2
Slovak R											2						1		3	2	1
Slovenia				1	1	1													3	3	0
Spain		1		1	1								1		1			1	6	3	3
Sweden						1	1	1								1			4	3	1
Switzerland									2	1									3	3	0
Turkey	3	3	3	3	3	3	3	3	3										27	27	0
UK					1	1	1		1				2		1				7	4	3
Belarus																			0	0	0
BosniaH																			0	0	0
Kosovo													1						1	0	1
Moldova																			0	0	0
Montenegro																		1	1	0	1
Ukraine																			0	0	0
Algeria									1										1	1	0
Morocco									1										1	1	0
Tunis									1										1	1	0
Total	11	10	11	11	10	13	11	12	15	3	8	5	10	7	6	7	9	9	168	120	48

EuFMD Real Time Training - NTC10 – Nakuru, Kenya

17-21 September 2012

Large Scale Farm Project

EXECUTIVE SUMMARY

FAO and its EU-FMD Commission held a 4 day real time training course for veterinarians, in field diagnosis and management of FMD in Nakuru, Kenya. The participants included local Kenyan veterinarians and also visiting vets from Serbia, Montenegro, Spain, Germany, Denmark, Austria, Italy, Latvia and Australia.

The course began with an overview and presentations from Eoin Ryan from FAO, FMD technical expert Nick Lyons, and Senior Assistant Director of Veterinary Services Eunice Chepkwony. Topics covered included procedures for FMD investigations, biosecurity, and sample collection; history of FMD in Kenya; a session on lesion aging; and detailed information on epidemiology and dangerous contact tracing. Field sessions for practicing biosecurity measures, diagnosing FMD and establishing epidemiological patterns were planned for Day 2, for which the fifteen participants were divided into two groups. One group was assigned to visit a large commercial dairy farm, the other to visit a smallholder subsistence farm. On Day 3 all participants took part in a transect walk in an area known to be FMD affected. Data relating to risk factors for FMD was gathered from short interviews with smallholder farmers. Day 4 was spent writing and collaborating reports, and preparing a summary presentation for the Provincial Director of Veterinary Services and the Director of the Nakuru Veterinary Investigation Laboratory.

Laboratory results from the large scale farm were consistent with a SAT2 outbreak. The cattle are all regularly vaccinated against FMD, however the farm has many workers and visitors on the property every day, as such it is likely one of them had been in contact with infected animals.

Recommendations to the farmer included increased biosecurity, some improvements with the vaccination strategy, and awareness amongst farm workers of FMD and transmission pathways.

Emergency Response to the SAT2 incursions into Egypt/Libya: missions, training, diagnostics supplied April 2012-September 2012

Country	SAT2/FMD Status 2012	EuFMD mission	Other Mission	Cairo Lab Training	Diagnostics supplied	Diagnostics on order	Paris (ANSES) Lab Training	Cyprus Surveillance /PEPc Training	Rabat Workshop UMA/REMESA
Egypt	SAT2 + African O, A confirmed	Yes		yes	Ag ELISA			Yes/yes	yes
Libya	SAT2 + African O, A confirmed	Yes	CMC-AH	yes	AgELISA				yes
PAT (gaza)	SAT2, O confirmed		CMC-AH	yes	AgELISA			yes	
PAT (WB)	at risk		CMC-AH	yes	AgELISA				
Israel	at risk/O confirmed				AgELISA; sequences of SAT2 specific PCR			yes	
Jordan	at risk			yes	AgELISA			yes	
Lebanon	at risk/ O and A expected				AgELISA	PCR reagents, NSP serology kits	yes		
Turkey	at risk/OA Asia1				AgELISA				
Syria	At risk/ O and A				AgELISA				
Tunisia	at risk				AgELISA	NSP serology kits	yes		yes
Algeria	at risk				AgELISA	PCR reagents, NSP serology kits	yes		yes
Morocco	at risk					NSP serology kits			yes
Mauritania	at risk				AgELISA	NSP serology kits	yes		yes
Niger	Unknown, SAT2, O, A expected				AgELISA	NSP serology kits	yes		
Chad	Unknown, SAT2, O, A expected				AgELISA	NSP serology kits	yes		
Iraq	At risk/O and A				AgELISA, RNA later				

Foot-and-Mouth Disease situation
Food and Agriculture Organization of the United Nations
Monthly Report
August 2012

Information sources used:

Databases:

Emergency Prevention System-Animal Health/Global Early Warning System (EMPRES-AH/GLEWS)
FAO EMPRES-i Global Animal Disease Information System

FAO World Reference Laboratory for FMD (WRLFMD)

OIE WAHID World Animal Health Information Database

Other sources:

FAO/EuFMD supported FMD networks (EARLN-FMD Eastern Africa, RESOLAB-FMD West Africa, West Eurasian Laboratory Network)

FAO/EuFMD projects and field officers.

The sources for information are referenced by using superscripts.

The key to the superscripts is below:

1. WAHID Interface – OIE World Animal Health Information Database
<http://web.oie.int/wahis/public.php?page=home>
2. Global Early Warning System (EMPRES/GLEWS) reports <http://empres-i.fao.org/empres-i/home> ;
National Authorities, 10/11/2011, <http://www.gov.kg/?p=4716>
3. Reports from FAO/EuFMD projects and field officers
4. World Reference Laboratory for Foot-and-Mouth Disease (WRLFMD), www.wrlfmd.org
5. Conference on Scientific Developments and Technical Challenges in the Progressive Control of FMD in South Asia, New Delhi, India, 13-15 February 2012.
6. 2nd Global FAO/OIE conference on FMD, 27-29 June 2012, Bangkok.
7. SENASA, Argentina

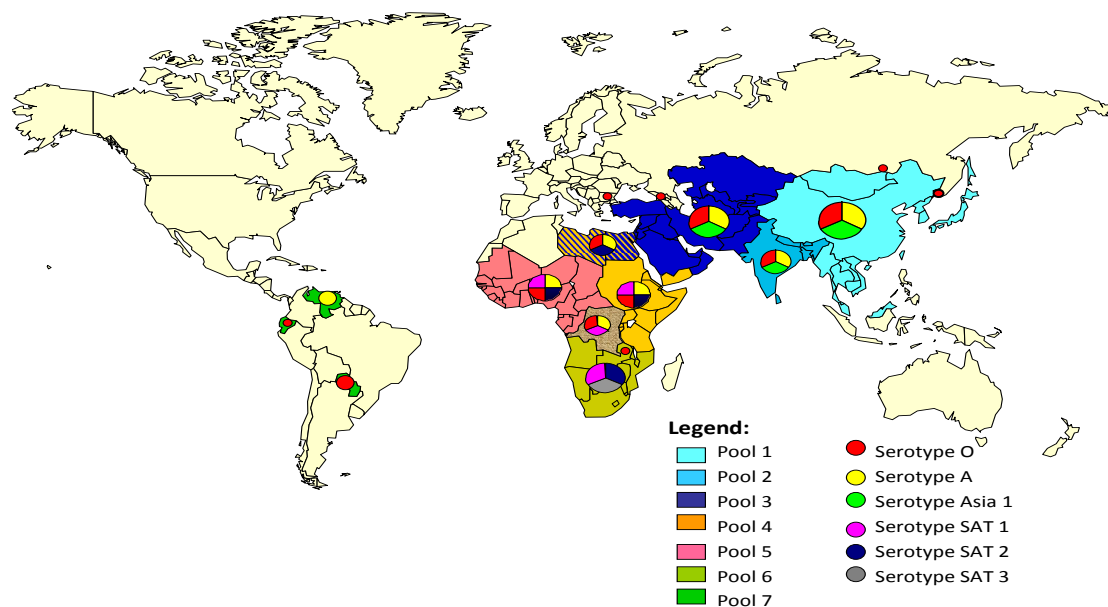
Review process:

This report (in draft) was circulated for comment to focal points of the FAO Reference Centres for FMD (including Centres in process of recognition) and OIE Reference laboratories for FMD.

The following are thanked for their comments:

- National Centre for Animal Diseases (NCFAD), Canada.

Foot-and-mouth disease (FMD) distribution by Serotype and the seven virus pools, 2010-2012



HEADLINE NEWS

Pool 3:

- **Iran**⁴ – serotypes O, A and Asia 1 have been detected in samples taken in June and July 2012 and tested at the WRL.
- **Saudi Arabia**⁴ – Serotype O detected in samples taken in July 2012.
- **Turkey**³ – continued circulation of serotypes Asia 1 and A, causing many outbreaks, in addition a new lineage of serotype O virus has recently been detected – toponotype ME-SA, lineage PanAsia-2^{FAR-09}.

Pool 4:

- **Eritrea**⁴ - genotyping analysis shows that several type O viruses detected are very closely related to the Libyan and Ethiopian type O viruses.

Pool 1. CENTRAL / EAST ASIA

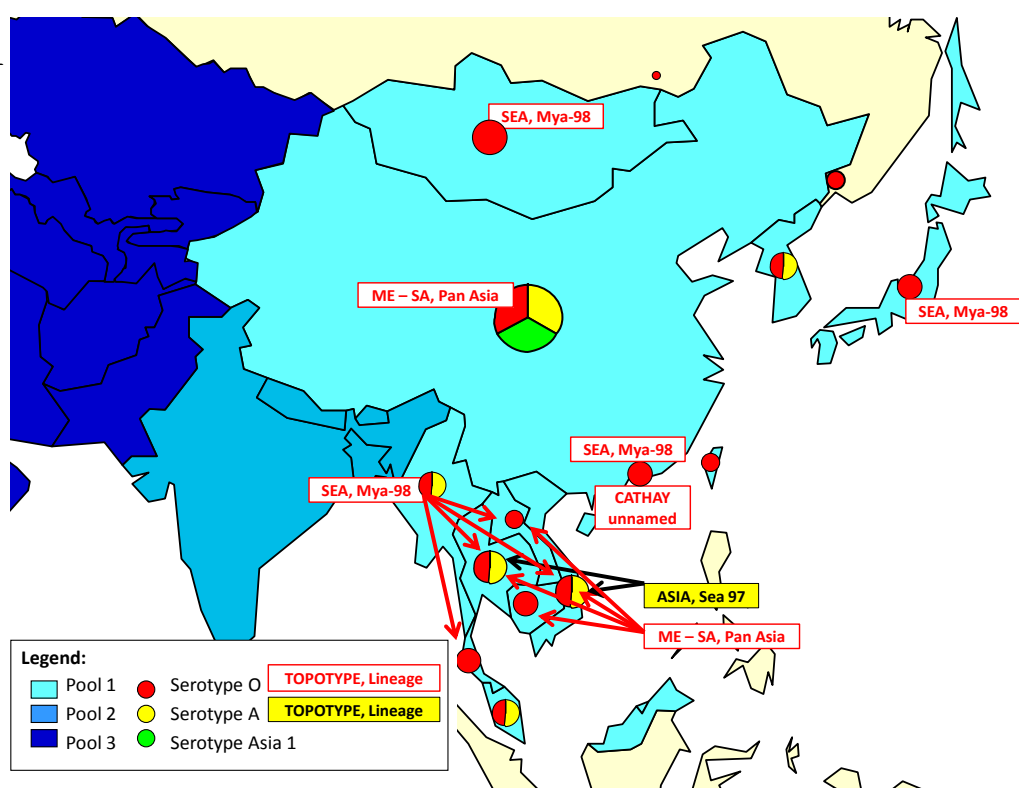
Country	Data WRL FMD ⁴ 2011/ 2012	Data from field officers ³ 2011/ 2012	Reported serotype/outbreaks in OIE 2012 ¹		Reported serotype/outbreaks in OIE 2011 ¹	
			Serotype	No of outbreaks	Serotype	No of outbreaks
Cambodia	O					94
China (People's Rep. of)			O	1	O	8
China (Hong Kong, SAR)	O		FMDV Genome detected.			
China (Taiwan Province)			O	12	O	12
Japan					Reported as absent.	
Korea (DPR)	O				O	114
Korea (Rep. of)	O				O	155?
Lao PDR	O					
Malaysia	O, A Asia 1				O, A	28
Mongolia					No new outbreaks in 2011 and 2010, event resolved 01/09/2011	
Myanmar					23/03/2011 – report confirming no new outbreaks	
Russian Federation			O	2	O	1
Thailand	O, A				O, A	31
Viet Nam	O				O	449

New events in Pool 1

No new events have been reported

Significant events in Pool 1 from previous months.

- **China¹** - The outbreak with a start date of 27/12/2011 that occurred in pigs in Hubei Province has been declared as resolved.
- **Thailand⁴** - Four FMD type O and 19 type A viruses were isolated from a batch of 24 samples received from Thailand in June 2012 (collected in 2011 and 2012). Two type O viruses belonged to the ME-SA/PanAsia lineage while the other two belonged to the SEA/Mya-98 lineage. All 19 type A viruses belonged to the ASIA/Sea-97 lineage.



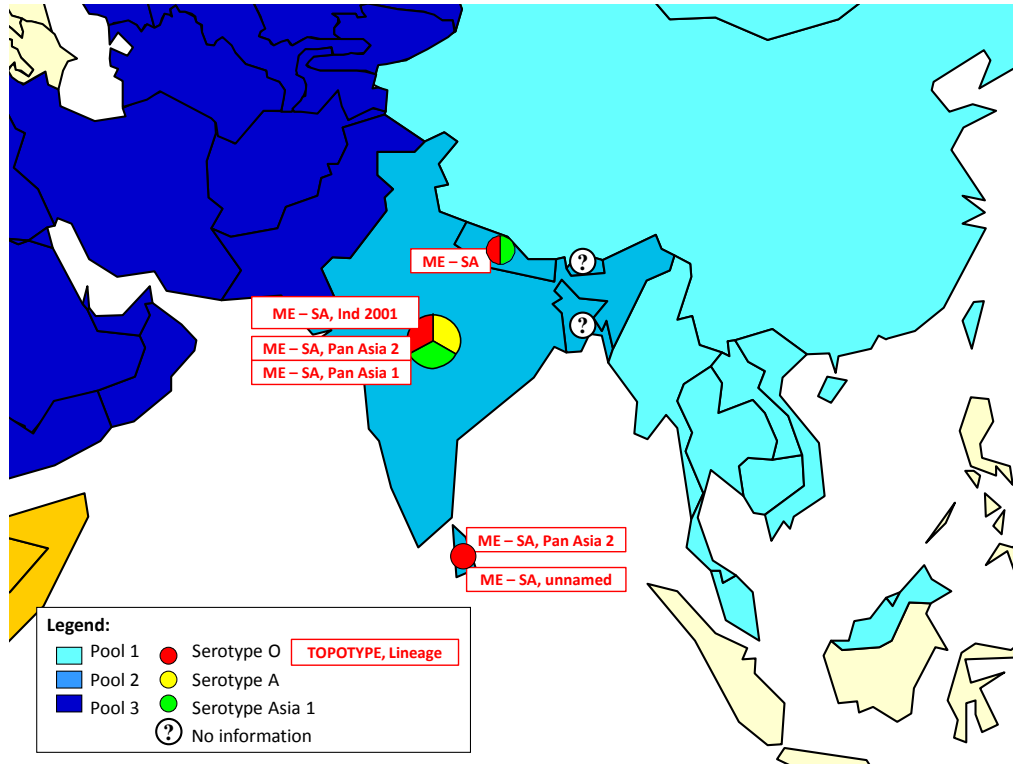
Pool 2. SOUTH ASIA

Country	Data WRL FMD ⁴ 2011 2012	FMD Conference New Dehli February 2012	Reported serotype/outbreaks in OIE 2012 (immediate notifications) ¹		Reported serotype/outbreaks in OIE 2011	
			Serotype	No of outbreaks	Sero type	
Bangladesh		O A Asia 1			Disease present but without quantitative data	
Bhutan		O				
India		O, A, Asia 1			O, Asia 1	439
Nepal		2011 ~873 outbreaks (O, A, Asia 1)			O, Asia 1	72
Sri Lanka	O				O	6

New events in Pool 2

No new events have been reported.

FMD distribution in Pool 2 by serotypes 2010 - 2012



The following were reported at the New Delhi Conference 2012:

Bangladesh – Serotypes O, A and Asia 1

Bhutan – Serotype O

Pool 3: WEST EURASIA & MIDDLE EAST

Country	Data WRL FMD ⁴ 2011/2012	Data from field officers ³ 2011/2012	Reported serotype/outbreaks in OIE 2012 ¹		Reported serotype/outbreaks in OIE 2011 ¹	
			Serotype	No of outbreaks	Serotype	No of outbreaks
Afghanistan	A, O, Asia 1				A, O, Asia 1	294
Armenia		No outbreaks 2012				Reported as Absent.
Azerbaijan						Reported as Absent.
Bahrain	A, O, Asia 1		(SAT 2)*	(1)*		33
Bulgaria	O				O	11
Egypt	A, O, SAT 2	Epidemic	SAT 2	43		Reported as Absent.
Georgia		No outbreaks 2012				Reported as Absent.
Iran	O, A, Asia 1	O, A, Asia 1			O, A, Asia 1	2053
Iraq						
Israel	O		O	2	O	16
Jordan					Disease absent	
Kazakhstan	O, A		O, A	8	O, A	11
Kuwait	O				O	3
Kyrgyzstan	A	A,O 2012 - 33 outbreaks			A, O	66
Lebanon						Reported as Absent.
Libya	O		O, A, SAT 2	24	Disease present but without quantitative data	
Oman					O	122
Pakistan	O, A, Asia 1				Disease present but without quantitative data	
Palestine Autonomous Territories	SAT 2		O SAT 2	2	A, O	126
Qatar					O	20

Saudi Arabia					Disease present but without quantitative data	
Syrian Arab Republic						
Tajikistan					Asia 1	1
Turkey	O, A Asia 1	O, A Asia 1		O, Asia 1	O, A Asia 1	1045
Turkmenistan						
Uzbekistan						

()* - identified in the quarantine centre

New events in Pool 3

- **Iran⁴** – WRL results for samples taken in June and July 2012 are given below:

Serotype O - two lineages have been detected in two of the samples, PanAsia-2^{ANT-10} and PanAsia-2^{FAR-10}. These lineages have previously been detected in Iran.

Serotype A - two lineages have been detected in six samples - five were genotype Iran-05^{AFG-07} and one was Iran-05^{SIS-10}.

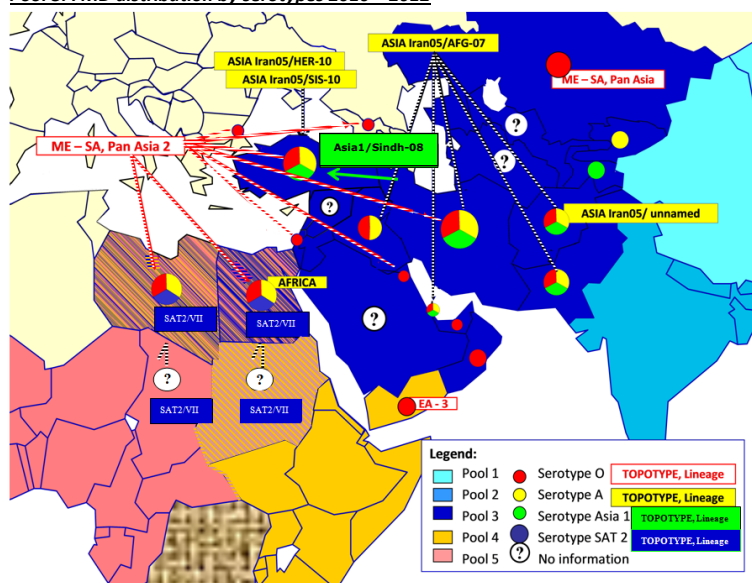
Serotype Asia 1 – three of the samples taken in June and July 2012 are genotype Sindh⁻⁰⁸

- **Saudi Arabia⁴** – Serotype O, topotype ME-SA, lineage PanAsia-2^{ANT-10} has been isolated at the WRL in samples taken from cattle in July 2012. This lineage is closely related to viruses that have recently been detected in Kuwait and Bahrain.

Significant events in Pool 3 from previous months

- **Egypt³** - in July 28 villages in three governorates reported clinical FMD cases for the first time. This compares to 149 villages (in seven governorates) reporting clinical FMD for the first time in June 2012, 83 (eight governorates) in May 2012 and 553 (24 governorates) in April 2012. This brings the number of first time village notifications of FMD, from the first recording on 5th March 2012 to 3333.
- **Libya⁴** – genotyping by the WRL showed that a serotype O topotype EA-3 (O/Lib/54/2012) is very closely related (99.37%) to an Ethiopian isolate and to several Eritrean isolates (99.69% identical). This important finding sheds light on the possible origins of the sub-Saharan FMD incursions into Libya
- **Kyrgyzstan⁴** - one sample taken in November 2011 was A Iran-05^{HER-10}. This is 98.9% identical to the serotype A found in a sample in Kazakhstan in February 2012.
Kyrgyzstan³ - The State Veterinary Department (SVD) has reported 33 outbreaks so far in 2012 (65 outbreaks were reported by the SVD in 2011). The central laboratory reports that most of the outbreaks are due to serotype O and some due to serotype A.
- **Turkey³** – continued circulation of serotypes Asia 1 and A, causing many outbreaks, in addition a new serotype O virus has recently been detected – PanAsia-2^{FAR-09}.

Pool 3. FMD distribution by serotypes 2010 – 2012



The following have recently been reported by the WRLFMD:

Egypt:

- Serotype A, toponym ASIA, lineage Iran-05^{BAR-08}.
- Serotype A, toponym AFRICA, lineage G-IV^{ISM-12}.
- Serotype SAT 2, toponym VII, lineages Alx-12 and Ghb-12.

Kazakhstan:

- Serotype A, toponym ASIA, lineage Iran-05^{HER-10}.

Kyrgyzstan:

- Serotype O

Libya:

- Serotype O, toponym EA-3.
- Serotype O, toponym ME-SA, lineage PanAsia-2^{ANT-10}.
- Serotype SAT 2, toponym VII, lineage Lib-12.

Saudi Arabia:

- Serotype O, toponym ME-SA, PanAsia-2^{ANT-10}

Pool 4. EAST AFRICA

Country	Data WRL FMD ⁴ 2011/2012	Data from field officers ³ /E ARLN ⁸ 2011/12	Reported serotype/outbreaks in OIE 2012 ^{1*}		Reported serotype/outbreaks in OIE 2011 ^{1*}	
			Serotype	No of outbreaks	Serotype	No of outbreaks
Burundi		O A SAT 1 SAT 2 ⁸ Four outbreaks			No details submitted.	
Comoros					Disease suspected but not confirmed.	
Congo D. R.	A				O, A, SAT 1	3
Djibouti						Reported as Absent.
Egypt	O, A SAT 2	A, O SAT 2	SAT 2	49		Reported as Absent
Eritrea	O				No details submitted.	
Ethiopia	O	O, A SAT 1 ⁸			A, SAT 1, SAT 2, O	15
Kenya	O	O, SAT 1, SAT 2 ⁸			O, SAT 1 SAT 2	60
Libya	O		O, A, SAT 2	37	No details submitted.	
Rwanda		Reported as absent ⁸			No details submitted.	
Somalia		No data available ⁸				7
North Sudan	A,O	No confirmed outbreaks 2012				9
South Sudan		O, SAT 1, SAT 2, A				
Tanzania	SAT 2	SAT 1 in buffalo SAT 2 in cattle O			SAT 2 SAT 3	14
Uganda	12 outbreaks in 2012	O ³ A ⁸ SAT 1 SAT 2 SAT 3			O	15
Yemen					No details submitted.	

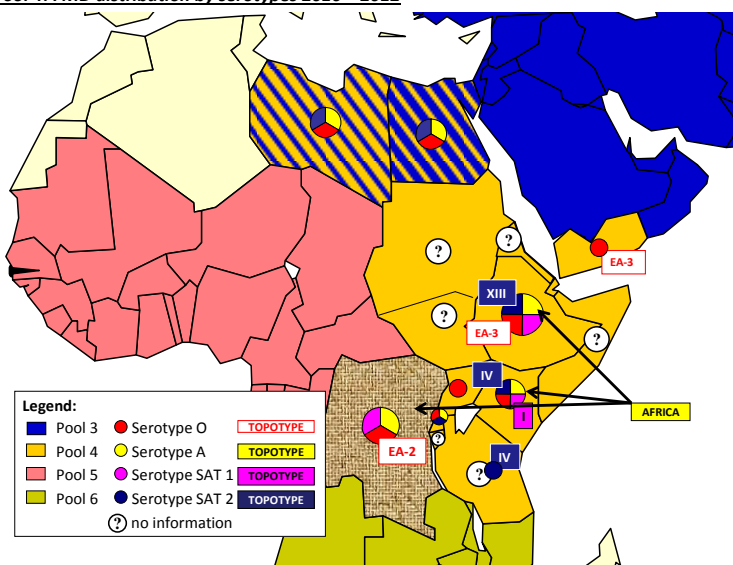
New events in Pool 4

- **Eritrea**⁴ – Serotype O, topotype EA-3 has been isolated in 14 samples collected from outbreaks that occurred between October 2011 and February 2012. The samples were shipped to WRLFMD in July and the dispatch of the samples was arranged by the EuFMD/FAO EMPRES shipping service and EuFMD covered the shipping costs. Genotyping showed that these isolates were very closely related to type O detected in Libya (O/Lib/54/12), with 99.69% VP1 identity. They are also closely related to two type O viruses recently detected from Ethiopia (O/Eth/59/12: 99.84% identical, and O/Eth/7/12), which were detected in the Tigray region bordering Eritrea and Sudan. This important finding sheds further light on the source of the current African type O outbreaks in Libya.
- **Republic of Sudan**⁴ – six serotype O, four serotype A and one SAT 2 have been detected by the WRL in samples taken 2009-2011.

Events in Pool 4 from previous months

- **Burundi**³ - four outbreaks were reported in June 2012.
- **Democratic Republic of Congo**³ - FMD continues to be reported the east of the country, with 10 outbreaks recorded in July 2012.
- **Ethiopia**⁴ – further outbreaks of type O in Amhara/Tigray Regions. Genotyping by the WRL showed one of the detected viruses was very closely related (99.37% similarity) to the type O recently detected in Libya.
- **Kenya**⁴ - six FMD type O, one type SAT 1 and six type SAT 2 viruses were isolated from a batch of samples received from Kenya by the WRL on 29 June 2012
- **Tanzania**³ - 24 outbreaks reported for the period January to July 2012.
- **Uganda**³ – 11 outbreaks reported in the first six months of 2012

Pool 4: FMD distribution by serotypes 2010 – 2012



Pool 5. WEST AFRICA

Country	Data RESOLAB 2011/2012	Serotypes reported from RESOLAB 2011/12	Reported serotype/outbreaks in OIE 2012 ^{1*}		Reported serotype/outbreaks in OIE 2011 ^{1*}	
			Sero type	Nb of outbreaks	Serotype	No of outbreaks
Benin		A, SAT 1 O, SAT 2			A, O, SAT 1, SAT 2	59
Burkina Faso		A, O, SAT 2				161
Cameroon	11 outbreaks 2012	A, O, SAT 2				35
Cape Verde					No details submitted	
Central Afr. Rep.					No details submitted	
Chad		A, SAT 1			No details submitted	
Congo D. R.	O,A	A, SAT 1			O,A, SAT 1	3
Congo R.					No details submitted	
Cote d'Ivoire		A, O, SAT 2			SAT 1, A	13
Equatorial Guinea						Disease suspected but not confirmed.
Gabon						Reported as absent.
Gambia	One outbreak	A O SAT 2			No details submitted.	
Ghana	43 samples ELISA positive	A O SAT 1 SAT 2				57
Guinea Biss.					Reported as absent.	
Guinea					No details submitted	
Liberia		A, SAT 2			No details submitted.	
Mali		A, SAT 1 O, SAT 2				3
Mauritania					No details submitted	
Niger	13 Outbreaks awaiting serotyping	A,O,SAT 1 SAT 2				45
Nigeria		A, SAT1,O				15
Sao Tome					No details submitted.	

Principe						
Senegal		A,O,SAT 2			?	12
Sierra Leone					Reported as absent.	
Togo	One outbreak 2012	O, SAT 1			O, SAT 1	79

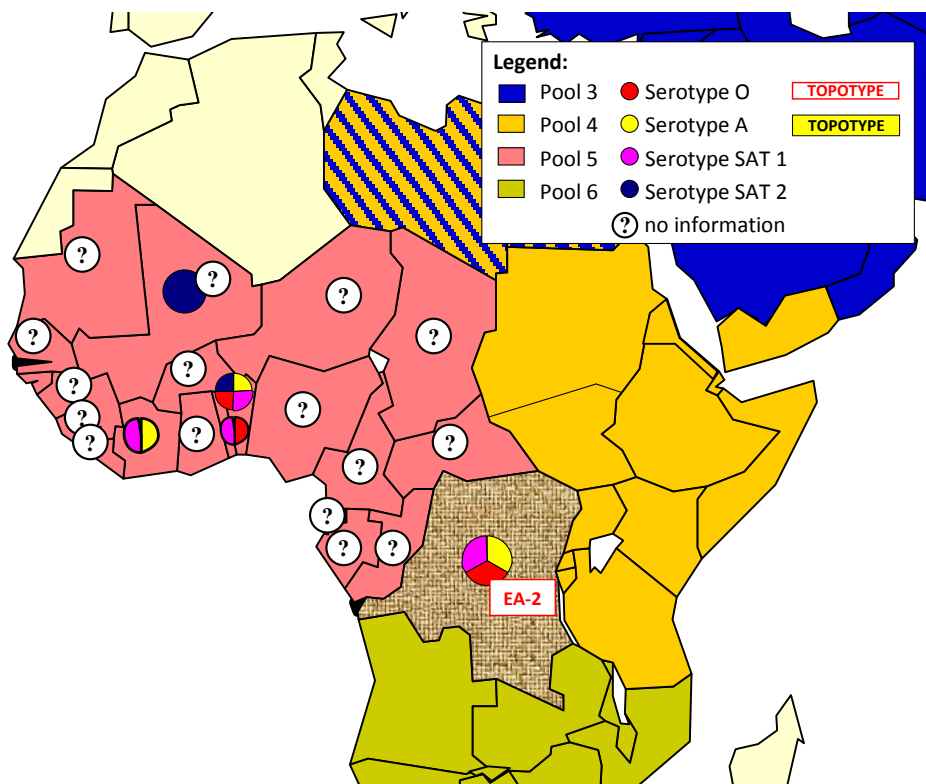
New events in Pool 5 .

No new events have been reported.

Events in Pool 5 from previous months.

- **Benin**¹ - reported 22 outbreaks in the second half of 2011 bringing the total outbreaks of FMD reported to the OIE in 2011 to 59.
- **Burkina Faso**¹ – additional reporting to the OIE brings the total number of outbreaks for 2011 to 161.
- **Cameroon**⁵ - 11 outbreaks reported for the first three months of 2012; samples to be sent for analysis.
- **Nigeria**¹ – total outbreaks reported to OIE for 2011 is 15.
- **Niger**¹ - total outbreaks reported to OIE for 2011 is 45.
- **The Gambia**⁵ - outbreaks in the North bank, Central river and Western regions; samples sent for analysis.
- **Togo**⁵ - one outbreak at Adetikope (Adodovi) on 21 February 2012.

Pool 5. FMD distribution by serotypes 2010 - 2012



Pool 6. SOUTHERN AFRICA

Country	Data WRL FMD ⁴ 2011 - 2012	Data from field officers ³ 2011 - 2012	Reported serotype/outbreaks in OIE 2012		Reported serotype/outbreaks in OIE 2011	
			Serotype	No of outbreaks	Serotype	Nb of outbreaks
Angola						None
Botswana	SAT 2		SAT 2	1	SAT 2	4
Congo D. R.	A	A, SAT 1			O, A, SAT 1	3
Malawi					SAT 2	2
Mozambique				None	SAT 2	1
Namibia			SAT 1	1	SAT 1	4
South Africa	SAT 2		SAT 2	5	SAT 1	46
Zambia				None	SAT 2	1
Zimbabwe					SAT 2	10

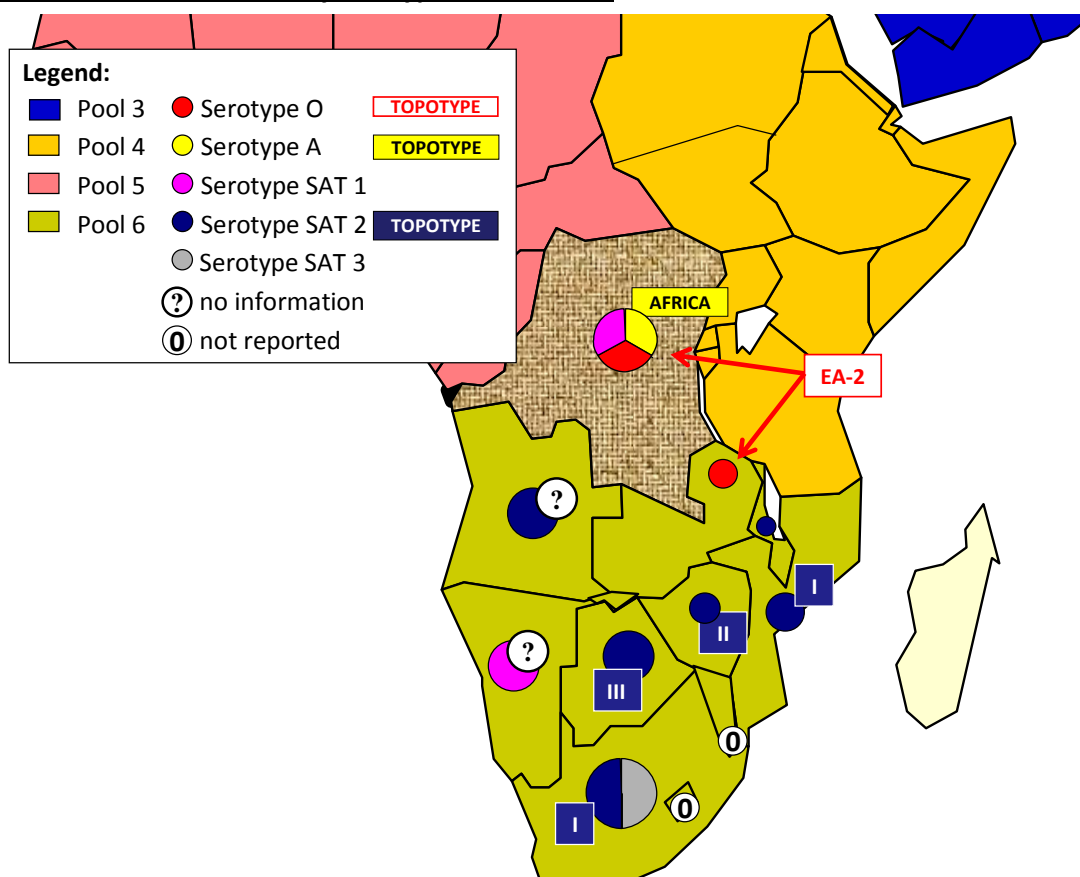
New events in Pool 6

No new events have been reported.

Significant events in Pool 6 from previous months

- **Botswana**¹ - partial VP1 sequence data received from the Botswana Vaccine Institute showed the new FMD type SAT 2 out break reported in cattle at Matsebe Crush, Ngami, Ngamiland, Maun on 23/05/2012 to be due to topotype III.
- **Namibia**¹ - a follow up report submitted on 17 July 2012 regarding outbreaks resolved in the Caprivi Strip on 20 March indicates that the SAT 1 viruses from all four 2011 outbreaks were 100% similar to each other and differed by 6% from a previous SAT 1 outbreak in 2010 also in the Caprivi strip. The 2011 viruses also cluster with Botswana SAT 1 isolates from 1998 and 2006 with a nucleotide difference of 11% and 12% respectively.
No new cases have been reported since 15 January 2012.

Pool 6. FMD distribution by serotypes 2010 – 2012



Pool 7. SOUTH AMERICA

Country	Data WRL FMD ⁴ 2011 - 2012	Data from field officers ³ 2011 - 2012	Reported serotype/outbreaks in OIE 2012		Reported serotype/outbreaks in OIE 2011	
			Serotype	No of outbreaks	Serotype	No of outbreaks
Ecuador					O	5
Paraguay					O	2
Venezuela					O,A	2

New Events in Pool 7

No new events have been reported.

Recent important events 2011-2012 in South America⁷

- Nine outbreaks of FMD were notified in 2011: eight serotype O (five Ecuador, two Paraguay, one Venezuela) and one serotype A (Venezuela) – no outbreaks have been notified in the region in 2012.
- Bolivia had 5 years without FMD outbreaks (last outbreak February 2007) and received the OIE recognition of free without vaccination for the Region del Altiplano.
- Brazil started epidemiological studies for the recognition of a free zone with vaccination in the states of its north east Region.
- Ecuador and Venezuela maintain FMD virus circulation.
- Peru has requested the OIE recognition of free without vaccination for the remaining part of its territory.

Pool 7. FMD distribution by serotypes 2010 – 2012

